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On the Unsymmetric Structure of the Leaves of *Mnium spinosum*

In a pamphlet recently received M. Jacques Pottier¹ presents some interesting observations upon the structure of the costa of *Mnium spinosum*, a species that in Europe occupies something of the position here taken by *M. spinulosum*. Since some material collected for embryological purposes was not in satisfactory shape, the author tried to utilize it for morphological study. Being struck with the decidedly one-sided development of the leaf first examined, M. Pottier made a careful study of a few leaves to ascertain, if possible, the cause. Because of the large amount of labor required, it was impossible to make detailed studies of more than two leaves, but similar conditions were observed in all leaves examined. Beginning at the apex, over 350 transverse sections were made from definitely ascertained regions of the leaf, proceeding in regular order toward the base; the sections were then drawn under a camera lucida and studied in detail with especial reference to the position and origin of the various cellular elements in the costa.

The costa in this species is composed of several layers of cells, containing large cells (guides), smaller stereid cells, and a central strand of small parenchyma cells. These all seem to arise from repeated divisions of a single layer of rather large cells, new walls being formed both horizontally and perpendicularly. If the axis of morphological symmetry be taken as a line passing between the two middle guides of the central row and in the plane of their division wall, it is seen that this line is not perpendicular to the upper surface of the leaf, and that the greater mass both of the stereids and of the central strand usually lies either to the right or to the left of it. Serial sections show that this displacement alternates from right to left, with intermediate portions that are more nearly symmetrical. Furthermore this one-sidedness is apparently associated with the sinuosities of the costa, being to the right when the nerve bends to the right of the median line and vice versa. The alternations of right and left asymmetry seem to be more numerous in the apical and extreme basal portions of the leaf than in the median part.

M. Pottier suggests that the sinuosities of the nerve arise from the fact that the leaf is formed from a single apical cell cutting off new cells in two planes, that the resulting displacements of costal elements come from the compressions and expansions associated with this bending of the nerve, and that the greater abundance of the alternations of asymmetry in the upper and lower portions is connected with the fact that these regions are the ones where the least intercalary growth occurs in the elongation of the leaf.

E. B. C.

MISCELLANEOUS NOTES

Dr. Alma G. Stokey, of Mt. Holyoke College, writes us that in the recent fire that destroyed the building in which the botanical department was located,

¹ Jacques Pottier. Sur la dissymetrie de structure de la feuille du *Mnium spinosum* (Voit) Schwaegr. pp. 1-16, with 28 figures in 7 unnumbered plates. Berne, Büchler & Co. 1917.

all the collections and most of the botanical library were burned. Dr. Stokey writes that the donation of duplicate material from members of the Society would confer a very great favor upon the College. In the way of herbarium material it is especially hoped that a representation of the commoner species from New England can be secured: mosses, lichens and hepatics are needed, as well as other forms. We are certain that all that is necessary is to bring to the notice of members of the Society this chance to pass along the help they have received themselves.

E. B. C.

NOTICE TO MEMBERS

Since the report of membership was published in the January issue, Miss Eva M. Fling, 220 Prospect Street, Morgantown, West Virginia, has become a member of the Society.

The members are requested to note especially that the address of the Moss Curator, Mr. Geo. B. Kaiser, *has changed to* 232 West Mt. Pleasant Ave., Mount Airy, Philadelphia, Penna.

EXCHANGE DEPARTMENT

Offerings—*To members only.* Return postage should accompany the request.

Mr. Edward B. Chamberlain, 18 West 89th Street, New York City.—*Grimmia patens* B. & S., *c. fr.*, from Switzerland; *Cinclidotus fontinaloides* P. Beauv., *forma*, simulating *C. riparius*, see Dixon & Jameson Handbook, p. 248, both collected by Mr. Rhodes.

Mr. S. Rapp, Sanford, Florida.—*Fissidens falcatus* R. & C., and *Neckera undulata* Hedw., both collected in Florida by Mr. Rapp, this being the first record of fruiting specimens of *F. falcatus* for the United States.

Miss Daisy J. Levy, 403 West 115th St., New York City.—*Dicranum longifolium* Ehrh., collected by Miss Levy at Lake George, N. Y.